

Oral presentation: 198

Indoor resting preference of *Aedes* (Stegomia; Culicidae) mosquitoes in urban human dwellings of Gampaha District, Sri Lanka

C. P. R. D. Dalpadado^{1*} and L. D. Amarasinghe²

¹The Regional Director of Health Services Office, Gampaha, Sri Lanka

²Department of Zoology and Environmental Management, Faculty of Science, University of Kelaniya, Sri Lanka

*rd.dalpadado@gmail.com

The current study was designed to identify the preferred resting height, place and surface of Dengue vectors, *Aedes aegypti* and *Aedes albopictus*, near human dwellings located in urban cites in Gampaha District, Sri Lanka during August 2017 to February 2018. Adult mosquitoes were collected systematically using manual aspiration technique, during 6:00 a.m. and 9:00 a.m. and 4:00 p.m. and 7:00 p.m. from all the resting localities from 280 premises. At each station, resting place, nature of the resting surface and resting height were recorded and mosquitoes were identified down to species level. In total, 378 *Aedes* mosquitoes (*Aedes aegypti* 82.3%, *Aedes albopictus* 17.7%) were collected and of the collected *Aedes* mosquitoes, 1:8 male to female ratio was observed. 68.3% of *Aedes* mosquitoes preferred to rest closer to the ground level and 24.9% mosquitoes rested between 1 m to 2 m above the ground level. 4.8% *Aedes* mosquitoes were found resting between 2 m to 3 m of height and only 1.5% *Ae. aegypti* mosquitoes were found resting 3 m above the ground level and none of the *Ae. albopictus* was recorded above 3 m from the ground level. There was no significant difference ($p=0.001<0.05$) between males and females in resting height for both vectors. Bedrooms were more frequently visited by resting *Ae. aegypti* mosquitoes (51.8%), followed by living rooms (28.5%) and kitchen (12.4%) while 52.4% female *Ae. albopictus* were found resting on living rooms and 28.6% in bed rooms. Identified indoor resting places were significantly different for *Ae. aegypti* and *Ae. albopictus* in Gampaha district ($\chi^2= 20.895$, $P< 0.05$). Majority of *Aedes* female mosquitoes were found resting on cloth hangings and curtains (49.3% *Ae. aegypti*, 77.8% *Ae. albopictus*) followed by under furniture (24.3% *Ae. aegypti*, 22.2% *Ae. albopictus*). The mean number of mosquitoes per positive premise was 1.35 and maximum total number of *Aedes* mosquitoes collected at a premise was 7. The maximum number of females collected was 6 and maximum for males were 2 per premise. Higher abundance of *Ae. aegypti* in the region increases the transmission risk greatly, since *Ae. aegypti* bites more than one host to complete one blood meal. Since females were found resting closer to floor level especially in hidden locations such as cloth hangings, curtains and under furniture, indoor space spraying should be strengthened targeting these locations to control dengue in future.

Keywords: *Aedes aegypti*, *Aedes albopictus*, dengue, resting behavior, vector control